

## BUILDING STONES FROM THE GREEN SAND FORMATION.

This name is assigned to a well-marked series of arenaceous and argillaceous deposits, which everywhere accompany and pass under the chalk of this country. The series is usually arenaceous in its upper and lower members, the upper green sand consisting of siliceo-calcareous beds, which furnish a valuable freestone, the middle part consisting of a thick argillaceous deposit, provisionally termed the gault clay, and the lower part consisting frequently of elevated hills of sand indurated occasionally into stone, sometimes highly arenaceous and sometimes containing carbonate of lime in a considerable proportion. Other products of economical value in the green sand formation are fuller's earth, scythes, iron pyrites, and for moulding purposes, glass making, &c. Throughout the whole elliptical basin of the weald of Kent and Sussex, the green sand accompanies the chalk from Hythe on the coast of Kent, to Petersfield in Hampshire, whence it returns to accompany the chalk of the South Downs to the Sussex coast at Pevensey and Beachy Head. The green sand of the West of England, which yields all the specimens of this stone in the Exhibition, excepting those in the weald, again accompanies the irregular outline of the chalk in the counties of Wilts and Dorset by Warminster and Shaftesbury, passing round to the coast between Weymouth and the Isle of Purbeck. Another and a detached mass of the green sand formation constitutes the Black Down hills in Devonshire and occupies the country about Chard, Honiton, and Sidbury. The whole formation takes its name of green sand from the presence of a peculiar green mineral, which occurs abundantly in the indurated beds of the series. This mineral, which is so plentifully disseminated in some of the beds as to give them a decided green tinge, occurs in small crystals, and is now generally understood to be a green silicate of iron.

No. 160 contained a block of freestone from the upper green sand of Godstone, Surrey. This stone is a very light grey coloured stone, tinged with green and abounding with mica, and was formerly much used as a building stone, having been so employed in Westminster Abbey, and the cloisters and other old buildings, also in Hampton Court, Windsor Castle, numerous churches in Surrey, the Town-hall and almshouses at Croydon, and several modern houses in Garton, including Garton House, the seat of the Countess of Warwick. The Garton freestone, which was used for some of these buildings, does not differ from the Godstone, so that it is unnecessary to make any distinction between them. The weight of this stone is usually about 103 lbs. 1 oz. per cubic foot. It is the common hearth-stone of London, so extensively employed for clamping hearths, door-steps, stone stairs, &c., for which purposes it is daily hawked about the streets. The fire-stone is also very much used for lining furnaces, stoves, bakers' ovens, and for every purpose to which fire-brick is applied. This stone was formerly conveyed by a tram-road to Croydon, and thence by canal to London, the price there being 1s. 6d. per cubic foot. It ought now, by means of the London and Brighton Railway, to be delivered for about 1s. per cubic foot.

No. 160 had also a block of Kentish rag-stone from Boughton quarry, near Maidstone, being a light-coloured greyish somewhat crystalline conglomerate of quartz, with occasionally green particles of silicate of iron imbedded in a calcareous cement containing shells. This stone is very like the Calverley stone from Tunbridge Wells, which was examined by the Royal Commissioners in 1839: weight, 118 lbs. 1 oz. per foot; price, delivered in London, 1s. 2d. per cubic foot. This stone is very extensively used for church building in the present day, and is believed to have been much employed in building Westminster Abbey.

It also contained two specimens from the Swanodon quarry at Maidstone, namely, a rag-stone similar to the above, being a con-

glomerate of quartz grains, with a crystalline calcareous cement, and the other being a soft freestone termed hassock. The rag-stone of this quarry has been used in many ancient and modern churches, in Harwich breakwater, and in her Majesty's dockyards at Woolwich and Chatham. The hassock is a soft stone unfit for exterior work, but is much valued for the interior of walls on account of its absorbent properties, and the dryness of its surface. It was used in the walls of Westminster Hall, and of All Saints College, Maidstone. The following analysis is given by the exhibitor—Carbonate of lime, 53; alumina, 4; oxide of iron, 8; silica, 32; phosphate of lime, soda, magnesia, and sulphuric acid, 13.

## FINE ART CRITICISM.

"THE office of the art critic, as I take it, is to estimate art-productions,—the works, not the persons, of the artists, by the test of a rationally deduced æsthetic standard; to pronounce whether the subject of his criticism, be it architecture, painting, or sculpture, is good or bad, and how far it is either. With the controlling circumstances of the author he has nothing to do: he will commiserate as he best can the pressure of adverse circumstances, or of moral weakness, that may lead the hand of the artist practically to belie the conviction of his heart; but he cannot on this ground conscientiously ignore the faults of his work: there let the artist or architect speak for himself,—let him say, if so the case be, 'This work of my hand has many faults, but here I was coerced by such and such unavoidable circumstances; here I gave in to ignorant clamour; there I was seduced by fashion and accustomed to the taste of the day.' Whether architects or artists of the present time are in any numbers inclined to use this form of open confession, I am not prepared to say; though I believe that at all times, from the dawn of art till the present moment, true artists have frequently said something like this to themselves, with all sincerity of sorrow, and with all following of amendment.

The intellectual structure of the true artist (to borrow a term from science) appears to me to be endogenous (growing from within outward): like a monocotyledon, the germ of his intellect has but one seed leaf, that, namely, of art-production: to produce, or, as in the highest instances, for foresighted evolution to create, is the direct tendency of his energy,—the vital atmosphere of his existence; and to all objects of his thoughts, on all subjects of his reflection, the question put is (according as his particular branch of art may be), will it point? will it build? will it rhyme? will it sing? The intellectual structure of the true critic (to continue the same mode of comparison) is exogenous (increasing from without): like a dicotyledon, his intellectual germ bears two seed leaves; leading him, on the one hand, in the spirit of love, to surround himself with the productions of art; on the other hand, in the spirit of knowledge to arrange, to compare, to classify. Like the moral preacher of old time, all things which lie within his intellectual sphere are full of knowledge: his eye is never satisfied with seeing, nor his ear with hearing: "range beyond range, like the ever-increasing circles in water, the facts of art-production surround his central consciousness, from whence shoot forth the radii of soul-perception, dividing, estimating, and apportioning up to that outermost rind of vital power, beyond which whatever the soul may feel 'the mind cannot utter it.'" Were artists plants, and critics botanists, the question between them would be soon settled; for nature's system of science or of art is always right, and wherever error exists it is always chargeable to the intellectual shortcomings of man; for man's destiny is to be the free-willed and faithful friend of Rectitude, and not its natural slave, and therefore in the way of Wisdom as in the path of Peace, man is "made perfect through suffering." But while artists and critics resemble plants in their intellectual structure,—while, like them, their growth is liable to accidents of situation and

circumstances,—while, like them, they have a natural opposing energy to adverse action,—they have, in addition, what neither plants nor aught else but man has,—a moral consciousness,—an intellectual perception, which enables them so to comprehend their exact position, as most certainly to ensure their ultimate safety; giving them power, either by manly energy of opposition to break the fetters of circumstance, or by the wise humility of prudence to elude them.

If the comparisons I have here drawn be correct, it follows that no man can be at the same time artist and critic; for the proper task of either occupies the full sphere of the soul's energy, and we know that "two equal bodies cannot at the same time occupy the same space." It may be asked, "Does not the artist, then, in his working, employ the faculties of judgment, comparison, and arrangement; and is he not, therefore, inasmuch as he uses these, a critic also?" I reply, he does use these faculties, but as an artist, not as a critic: the tenor of his judgment, his elections of comparison, his preferences of arrangement, issue primarily, not from external reflections of the art-mind, but from the internal instinct of the art-soul, or nature. Like potassium, which, when dropped on wetted paper, follows with eager rapidity every line and streak of moisture, so intense is its affinity for water, the soul of the artist, in the hour of his inspiration, falls in, with the eager affinity of love, the ethereal tracks of beauty, and the ready hand records the prompt judgments of the fervent heart. But in all this there is no criticism (properly so called), and in the hour of his greatest triumph the artist, if asked, as was once Mozart, "Why did you so and so, in such and such a way?" can only reply with him,—"I did it so because it was best so."

"Work of his hand,  
He not commends nor grieves;  
Pleads for itself the fact,  
As unrepenting Nature leaves  
Her every act."

The full-powered artist, who should assume the critical function,—the full-powered critic, who should attempt artistic production,—would equally end in failure. The art-rancors of the former, grounded too much on individual predilections of style, would want the broad basis of well-considered generalization: the art-productions of the latter, confessed by conflicting rejections, would result in an example of the exaggerations of all styles, but the beauties of none. Writers without the pale of the profession, it is evident, must take wider views, while action in one particular department has a contractile power on the mind; and we may apply to art what was said by Goethe, in reference to the drama, "thought expands, but lames; action animates, but narrows." Let me not be misunderstood: I mean not absolutely to deny, at all times, and under all circumstances, the capabilities of critical power to the artist, or of artistic power to the critic: to do so would be, not to compare, but to identify their nature with that of plants; making the primary structural nature absolute throughout, which in man it is not: he can modify, control, direct, and change, to a greater or less extent, his mental constitution; but what I contend for is this. 1st. That neither artist nor critic can, as such, become the other; 2nd. That the greatest range of power lies in the direction of the natural psychical tendency; and if we run directly counter to this, we acquire but a secondary advantage, at the expense of a primary one. Whenever, therefore, artist and critic oppose their natural tendencies, and force the tides of energy into each other's domain, they may justly be compared to one who, being naturally gifted with acute powers of vision, should bandage his eyes, and endeavour to define objects by his inferior sense of touch: what his fingers gain, they gain at the expense of his eyes; and so in like manner, in proportion as the artist becomes a critic, he ceases to be an artist. The only way in which either safely can, or does, use the function of the other is in subordination in his own; and, as in all cases, the greatest power, *ceteris paribus*, effects the most absolute